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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/718,346	11/24/2000	Masanori Iwahashi	107864	2592

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EXAMINER

PARKER, KENNETH

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 09/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/718,346

Applicant(s)

IWAHASHI, MASANORI

Examiner

Kenneth A Parker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 June 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-5, 8 and 10-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

What is meant by a transistor is formed in a substantially rectangular area cannot be determined. What defines the pixel and control element being "formed in a substantially rectangular area" is not clear. It does not appear to mean the area of the control element itself (which is typically long and skinny, so much of the prior art would meet the claimed limitation given this interpretation) or the pixel electrode itself, but it means some other vague area, which the examiner has no way of determining what feature applicant construes as providing the boundaries of. Alternatively, it appears that applicant means that the area is the area defined by control lines surrounding the control element and for that control element alone. This has been used as the interpretation for the area associated with the control elements for examining purposes, and the pixel electrode itself has been assumed to be the pixel region.

***Claim Rejections - 35 USC § 103***

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 6-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diem 4950058 in view of Komatsubara et al 4519678.**

Komatsubara et al discloses a reflective device with the reflective pixels extending over the semiconductor substrate including the transistors. Lacking is the relative pixel densities claimed. Diem discloses a liquid crystal device in which the transistors for alternating rows are at the opposite sides of the pixel, so that the transistors in a given row have half the pitch, but double the pitch in the column direction. Diem teaches that their method enables reduction of the cost of manufacturing (col. 2, lines 44-48). Therefore it would have been obvious, to one of ordinary skill, to employ the method of Diem in the device of Komatsubara et al for the benefit of low cost manufacturing.

The rejection can be viewed from the reverse, with the Komatsubara as the secondary reference and Diem as the primary. Diem lacks the reflective electrode. Reflective devices were notoriously well known for better aperture ratios, because they did not lose the area where the transistor goes (the reflector extends over the transistor). Komatsubara et al evidences this with the discussion in the abstract of the higher opening ratio. Therefore, it would have been obvious to one of ordinary skill to

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employ a reflective device with the pixel electrode extending over the transistor for the benefit of improved aperture ratio.

**Claims 10-15, 2, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takemura 5757444 in view of Komatsubara et al 4519678.**

The rejection can be viewed from the reverse, with the Komatsubara as the secondary reference and Takemura as the primary. Takemura discloses a liquid crystal device with the regions defined by the gate electrodes having a different aspect ratio than the pixels, but Takemura lacks the reflective electrode. Reflective devices were notoriously well known for better aperture ratios, because they did not lose the area where the transistor goes (the reflector extends over the transistor). Komatsubara et al evidences this with the discussion in the abstract of the higher opening ratio. Therefore, it would have been obvious to one of ordinary skill to employ a reflective device with the pixel electrode extending over the transistor for the benefit of improved aperture ratio.

#### ***Allowable Subject Matter***

Claims 1, and 3-4 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph as understood above and set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

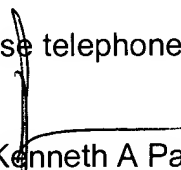
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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please note Hado and Nelson are particularly relevant.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Parker whose telephone number is 703-305-6202. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William L. Sikes can be reached on 308-4842. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.

  
Kenneth A Parker  
Primary Examiner  
Art Unit 2871

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September 8, 2003